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ABSTRACT

This booklet is an evaluation of the use of homework as it contributes to learning. The main contention of the booklet is that as often as possible homework should be in the form of independent study projects and should be interesting and enjoyable rather than boring or overly difficult. It is suggested that homework assignments which are too long or too disagreeable create a great deal of anxiety in students, particularly those most anxious to succeed. The document refers to experiments in which homework loads were reduced in school systems with no noticeable decline in accomplishment, while children and their families both seemed pleased with the change. Unpleasant homework assignments are also criticized as leading to cheating, since many students do not see the need for doing the work themselves. It is stated that it is not in fact known whether or not homework detracts from the student's interest or vitality in the classroom. Creative assignments which genuinely challenge students and are geared to their ability levels are seen as useful when assigned in moderation. A bibliography by the ERIC Clearinghouse on Teacher Education of other literature on the subject of homework is included. (CD)

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What Research Says to the Teacher

Homework

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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EDUCATION AS A CONTINUING PROCESS

So much has been spoken and written about the information explosion of the mid-twentieth century, its causes and its implications for education, that we do not need to be reminded of its influence on our daily activities.

One of the results of technological expansion is the way in which we emphasize education as a continuing process. We have long known that education cannot take place only in the classroom during the prescribed hours of the school day. It goes on during every minute that the student is outside the classroom, either at home, among friends, or in the larger community. In the past, the recognition of a need for continuity meant that a tradition was established whereby the school assigned homework, closely related to guided study in school hours. As classroom study techniques have changed in recent years, however, emphasis has tended to change from the read-summarize-review type of assignment to the independent study project which will be discussed in this report.

STUDY

During the 1950s and '60s, surveys showed that the traditional study hall and supervised study in the classroom were the dominant practices. (8, 13, 14, 20)* More recently, many schools have experimented with honors study halls directed toward a more independent form of study. Increasingly, however, schools seem to be relying much less on structured study periods, and more on independent study. Students are being encouraged to work alone or in groups on projects of special local or national significance. Such projects often include filming, tape-recording interviews, producing small publications, etc. The students produce something creative, with a moderate amount of supervision, and learn a great deal in the process. (30) Programs such as the Foxfire projects, local Bicentennial projects, and others that use home and community resources represent good examples of the trend toward individualized study methods.

Schools today are becoming more aware of the riches of other

*Numbers in parentheses appearing in the text refer to the Selected References beginning on p. 28.

cultures, so that the many different ethnic heritages of the United States are recognized as having valuable contributions to make to the learning experiences of all students. This ethnic awareness has also led to the development of new approaches to learning. Projects involving the study of Native American groups and their customs, or of aspects of Spanish-speaking, Asian, and African cultures, are becoming commonplace in schools, especially those having a percentage of students of these backgrounds. (30)

In addition, schools have established study programs to assist disadvantaged students, who have experienced problems with the single language and unicultural approach traditionally offered by schools. Individually-guided study, the tutoring of younger children by older in the classroom itself, creative projects of all kinds, are all helping to right the imbalances in education, attempting to provide a system representative of the ideal of equal opportunity for all. (30)

Study Methods

What is effective study? What methods are confirmed by research on learning? What methods do students usually use? Where do pupils of different ages and abilities study best—in the regular class, in periods set aside for study, in a traditional study hall, in the library, at home, or independently in more creative surroundings? If at school, how should their study be supervised, by whom, for what purpose, by what methods? If homework is given, we should ask for what purpose, at what ages, under what conditions? And finally, we should ask the possibly embarrassing question: What results are achieved through homework and supervised study?

Traditionally books, pamphlets, and films on how to study have emphasized the advisability of a suitable place for study, regular study times, independent study, freedom from distractions, the taking of notes, preliminary review and skimming, outlining, and illustrating general rules and principles with examples. Considerable research on the relative value of these skills was done from 1920 to 1940, but with inconclusive results. Although outlining seemed to be better than underlining, rereading, and certain other methods tested, there was no convincing evidence that underlining main ideas in the text or making notes in outline form was superior to spending the same amount of time in thoughtful reading of the selection and reflective recall.

This early research stressed methods which, although still in use, have tended to be replaced by more modern concepts of how students learn best, as well as by new methods which encourage less memorization and more intuitive, analytic thought. In short, the new approach to learning and teaching is to emphasize creative possibilities, while at the same time providing a firm base of knowledge and study skills to use as tools in a demanding and professionally-oriented society. (30, 32)

According to current theories of learning, the student should (a) have one or more objectives for study; (b) have a plan for reaching those objectives; (c) implement the plan, and (d) derive satisfaction from the learning experience that comes about in this process. In other words, *learning must become integrated with the individual's purpose*. She/he must be actively involved. The experience must be accompanied or followed by satisfaction. The modern psychology of learning emphasizes motivation, problem solving, the role of anxiety, interpersonal relations meaningfulness, reinforcement of any move in the right direction, goals and expectations, and the use of whatever is learned.

A list of study methods based on research would include the following points for teachers and students to keep in mind:

1. Select, if possible, materials and problems that meet a need or arouse a student's interest.
2. Place any learning task in its total context, in the light of the purposes, values, interests, and reasons for doing it, and its relation to other activities.
3. Set appropriate, immediate, and concrete objectives, as well as long-term goals.
4. Start with the simple and concrete, and progress gradually to the more complex skills and abstract concepts.
5. Relate previous knowledge and associations to new learning as part of a whole. Learn to see the common elements, find the underlying principles, and relate the new experience to your own life.
6. Take an active attitude toward the learning. Expect success.
7. Relate details in a meaningful sequence or pattern; see facts in their relationships; sense the structure of the whole.

8. Practice a skill in the varied situations in which it is needed to make it relatively permanent and precise.
9. Learn thoroughly important facts and skills. One of the greatest wastes of study time results from stopping before the facts are fixed in mind.
10. Put facts and other kinds of learning to use in new situations; this not only aids memory but also extends concepts.
11. Obtain evidence of progress and the attainment of goals.

Ideally, teacher guidance in study involves (a) understanding of individual students—their stage of development, their ideas of themselves, their study processes, what is actually going on in their minds, their readiness for a certain kind of learning; (b) providing appropriate, concrete, challenging materials, and suggesting timely topics and realistic, practical problems; (c) promoting interpersonal relations that furnish incentives for, or social reinforcement of learning; (d) encouraging student initiative in setting their own meaningful goals, finding worthwhile problems, discovering their own best ways of learning; and (e) reinforcing and making students aware of those of their study methods which are effective. The classroom teacher should not try to impose any particular method of study on all students. Nor should any student's first fumbling steps be discouraged.

Application of Study Methods

Certain general methods of effective learning may be applied to all subjects. For example, in learning to write, the classroom teacher and the class should give attention to:

Need for writing, such as wanting to do what other people are doing, label belongings, make a valentine, write a story.
Goals or standards—what the finished product should be.
Process—what to do to achieve the goals—thinking; physical positions, movement, etc.
End result—what use will be made of the writing? What pleasure can it give?
Practice—going through the steps leading to improvement, with acceptance of early immature stages, unique approaches, and approval of progress.

In reading, effective learning takes place when instruction and practice are appropriate to the student's present development, when:

she/he finds books and other material interesting and valuable.
she/he feels a need to read.
she/he engages in a progression of appropriate reading experiences.
she/he is neither allowed merely to mark time nor push too fast.

This approach is especially important in individually guided study: students are encouraged to work at their own pace, to achieve at their own level. According to many research and development centers specializing in individually guided education, these methods can have excellent results. (30)

The learning process is highly individual. Each student may be at a somewhat different stage in effective study methods; each may have worked out methods that make sense to her/him. These methods may be more helpful at a given time than methods prescribed by a checklist or other idealized form. (23)

Knowing the stage or level which the student has attained is essential in helping her/him to find and take the next step forward. Since the student must construct concepts out of personal experience, an effective kind of homework might be a series of graded experiences leading to mature understanding of a given problem or topic.

Trends in Study

Guided or supervised study has passed through many stages, reflecting various concepts of the classroom teacher's work. When teaching no longer consists chiefly of assigning tasks and hearing recitations, guiding students' study becomes a recognized responsibility of the teacher. It should, in fact, become an intrinsic part of the teaching process. Learning how to learn is in some respects as important an outcome of education as the facts learned.

After 1940 supervised study became more a part of student responsibility than it had been before. (22) In order to be effective, however, it still requires teacher guidance. If they are not given sufficient help, students tend to persist too long in their initial trial-and-error habits. This condition is partly due to failure to analyze study methods and to determine those which are best for students of different abilities. Since

results of how-to-study courses vary with different classroom groups and different students, a school might find it advisable to set up a selective or differential plan of study-supervision.

The most recent trend is toward independent study projects. As mentioned earlier, these have the dual benefit of providing the students with a challenging assignment through which they can exercise their creativity, at the same time learning certain specific skills. For example, should a group of students elect to work on an independent study project consisting of a small publication on local residents, or on a small Bicentennial project, they will learn some of the professional aspects of communication that would normally only be available to them much later in their work experience. A community research project, for instance, may involve students in a wide variety of skills, from interviewing to production, to checking facts for accuracy, to dealing with equipment and service suppliers. Most of this activity must be carried on outside the classroom.

Study in the Classroom

Many schools have abandoned the traditional study hall in favor of supervised study in each classroom. Investigations have suggested that supervised study should be an intrinsic part of a unit of work extending over several days or weeks. It should include planning ways of studying, as well as preparing and giving oral and written reports individually or in groups. (20)

With slow-learning students in a class in Economic Geography II, a plan of supervised study was introduced to counteract indifference and absenteeism. The class chose certain countries to study. Their reading of three textbooks was guided by a Work Plan Guide Sheet and facilitated by dictionaries and maps which were provided for each student. In this program homework was eliminated altogether. Each class period was spent in cooperative study in which the students felt free to consult one another and the teacher. When each one had completed work on a topic, she/he shared study findings with the whole class. The students liked this method of learning and felt they were "getting somewhere." The classroom teacher welcomed the opportunity to work with individual students and to meet individual needs, even though additional time and effort had to be invested in preparation.

Plans for supervised study in each subject, used flexibly and skillfully, give students specific instruction and practice in how to study. As assignments become more creative and emphasize problem-solving and research, the classroom, library, and laboratory become more effective places for study than the traditional study hall.

When the students actually begin independent, creative study projects, the horizons expand even further than the school itself, reaching into the community and utilizing its resources. Learning should not only refer to the world beyond the classroom, but it usually does take place outside it, in a variety of settings.

The total study pattern should include (a) instruction in how to study a particular assignment, (b) practice under supervision in the classroom, and (c) opportunity to complete unfinished work and engage in voluntary leisure reading and other worthwhile activities.

Instruction is most effective when principles, skills, and concepts relevant to the assignment with which the student is already familiar are reviewed in advance. She/he can then relate the new ideas to a previous "hierarchical cognitive structure" (3). Gagné, in an unpublished speech, outlined steps for giving specific verbal instruction before the reading of a selection:

1. Identify what the student is to learn from the selection.
2. Direct her/his attention to important parts.
3. Recall relevant principles or concepts immediately before the reading.
4. Guide her/his thinking process by means of specific questions on each main step in the reading-thinking process. (3)

Directed study at its best is guided learning.

HOME STUDY

Many strands of educational philosophy and method are woven into homework practices. For many years *memorization* was emphasized. The idea that "keeping the student's nose to the grindstone" disciplines her/his mind was long cited to justify difficult and disagreeable homework assignments.

The *interest* strand was strengthened by Pestalozzi, who diverted attention away from the student's failure to learn and emphasized the teacher's failure to interest the student and hold her/his attention.

While recognizing the importance of interest, Herbart believed that interest grows out of knowledge. Accordingly, he was concerned that students learn so that they would become interested in further learning.

The *activity* strand recognized the importance of student initiative and responsibility in learning and emphasized the objective of helping students use their out-of-school time effectively. These various strands of educational philosophy are still intertwined in the homework assignments of today. The independent study approach re-emphasizes these philosophies: interest and challenge are the keys. (30)

Objectives

It is always timely to ask some questions about homework: What ends are to be achieved by home study? Is it beneficial to the student? Will it help her/his experience of the learning process?

Among the objectives frequently given are the following:

1. To stimulate voluntary effort, initiative, independence, responsibility, and self-direction. Able students want homework that poses a problem and gives them a chance to use their own ideas or read the books they want to read. They detest unnecessary drill.
2. To encourage a carryover of worthwhile school activities into permanent leisure interests. We must guard against homework that usurps after-school hours which students could use more constructively. Overwhelming quantities of homework also tend to defeat the purpose of out-of-school assignments.
3. To supplement and support the school experience through related home activities.
4. To reinforce school learning by providing the necessary practice, integration, and application.
5. To acquaint parents with what their children are learning in school, and to invite their help when desirable.

At the same time we should recognize that home conditions are often not conducive to study and that excessive homework may cause tension and anxiety in some students. This is especially true with the children of ambitious parents; they feel the strain of competition for high marks and college entrance.

In spite of these problems, homework can still be viewed as valuable, though the shift from memorization and other routine ac-

tivities to interpretation and evidenced understanding tends to make it a more personal and often enjoyable undertaking.

There are variations in the amount of time spent in homework depending on a number of interrelated factors. The amount of time required in any study activity also varies with the standards of the school, the suitability of the curriculums, and the quality of the instruction.

Students' backgrounds might tend to influence their study habits. It was long believed that children and parents from some socioeconomic backgrounds were less likely to take schooling seriously than those from other backgrounds. In this view, upper- and middle-class parents were thought to value school learning more highly than those from lower socioeconomic groups. For this reason, they were believed to favor homework more than other parents did. This stereotype is changing, however, with the changing attitude toward students from lower-income groups. These students, in turn, are becoming increasingly aware of the value education can have.

The ability of the students may also influence the time they spend in study. In schools in which standards of achievement are below the ability of most students, the time spent on study is less than should be expected. But in schools in which the work is challenging, the superior student may spend two or more hours in home study. The relation between ability and time spent in study also varies with different subject fields and different teachers. Unless excessive, participation in extraclass activities, home duties, and remunerative work do not have a detrimental effect. In fact, the tonic effect of success in social relations often stimulates students to study more effectively.

The type of homework assignment affects home-study time. For example, in one high school a history teacher gave written assignments of a rather mechanical nature that required considerably more than an hour every night. She checked this homework carefully so that the students felt compelled to do it. As a result, they neglected less definite but more creative projects.

Since the relationship between study time and scholarship involves many factors, the results of research are conflicting. One survey of high school students reported practically no relation between the hours given to study and course marks; whereas in another high school there was some evidence that time spent in study paid dividends in scholarship. The high achievers in the ninth grade were spending more time

in study than the low achievers. In elementary school the correlation between school marks and time spent in homework was very small, a relationship, of course, influenced by the pupils' proficiency. (11)

Kinds of Homework and Study Projects

Homework assignments may be arranged on a continuum from the extreme of mechanical, routine exercises required of all students to the other extreme of creative projects or experiments undertaken voluntarily by individuals.

The kind of homework assigned is fully as important as the amount of time spent on it. The values to be achieved through homework determine both the kind and the amount. The students' feelings of strain and annoyance may result more from the kind of homework they are given than from the amount of time it takes. The kind of studying done depends a great deal on the nature of the assignment. Exercises that can be done mechanically encourage copying; they may arouse resentment, especially on the part of able students. If the assignment requires a "research" type of reading, the students obtain practice in locating sources of information they need. An assignment that calls for initiative, imagination, and individual effort gives no opportunity to copy and challenges the students to work effectively. Classroom teachers should guard against giving assignments that result in low energy output and general dissatisfaction with school. Independent study projects and creative assignments generally challenge students, thereby resulting in a better quality of work and higher degree of comprehension. (30)

Written work is often required, probably because it constitutes evidence that the student has done the assignment. As a way of appraising students' knowledge, however, a discussion is more stimulating to the class and less burdensome to the teacher than written homework.

Assignments are often vague. Some teachers still do not acquaint students with the specific skills and abilities a given assignment requires. Often the students do not know why they are to read a chapter: to learn specific isolated facts? to get the main ideas? to relate details to the main ideas and to get the author's pattern of thought? to draw inferences and conclusions? to answer questions in the book? to raise their own questions? to relate the content to what they have

previously learned? to relate the content to other experiences? or to apply what they have learned to practical life situations?

Assignments should be planned so that they require a variety of study methods, thus helping to build a repertory of study skills. Students should also learn to integrate different kinds of study experiences and to develop increasingly the ability to determine the specific approach that is appropriate to a given task.

In addition, they should be encouraged to take part in the detailed planning of assignments.

Problems with Homework

Homework gives rise to a number of problems. There is the widespread problem of copying another's homework. Copying defeats the purpose of homework and may have a long-term detrimental effect on both the individual who copies from another and the person who allows her/his work to be copied. If the student who copies or permits the copying of homework feels guilty about it, the homework problem takes on a mental-hygiene aspect. Homework may also affect family relations.

1. *Copying vs. sharing*. Cheating and sharing are two methods of cooperation in getting one's homework done. *Cheating* is involved when one student copies another's homework; students who do this may be depriving themselves of the learning experience which the homework is expected to give. *Sharing* is involved when students work together on a homework assignment, each learning from the others, as well as contributing to the accomplishment of the task. There should be more opportunity for this kind of sharing. When homework assignments are the same for all pupils in the class, and when they consist of mechanical exercises requiring no originality and little initiative, conditions are just right for copying.

   The extent of copying naturally varies in different schools and communities, and with the ability of the individual and the nature of the assignment. These last two factors are interrelated. The able student does not need to copy; she/he understands an assignment but may copy routine exercises just because they are of no interest or value to her/him. Creative, independent lessons would help eliminate this problem.

High school students have given various reasons for copying and for permitting others to copy their homework. They may have copied others' homework because they had forgotten the assignment, because they did not know how to do it themselves, or for other reasons. They permitted others to copy their homework because they wanted to help their friends and be loyal to them or to their gang. Sometimes they were afraid of arousing antagonism or losing friends if they did not comply with a request to lend someone a homework paper. Some may have had in mind the prudent thought that they might sometime be in need of similar assistance. But more and more, students seem to be realizing that homework is really designed to help them. (30)

2. *Homework and family relations*. The help a student gets from parents or older brothers and sisters is often extremely valuable. On the other hand, some parents while meaning well, only confuse the student by using methods different from those used in school. Others put too much pressure on their children to achieve academic success. Ideally, parents can help the student by pointing out the principles involved in particular assignments, giving illustrations of those principles, and making suggestions for the student's own study. They should encourage the student to use her/his initiative and to take responsibility. In that way they can help guide their children in learning how to learn.

3. *Health aspects*. Differences in the effects of homework on the health of individual students may be due to differences in their general health and intelligence, the time spent in traveling to and from school, and home and neighborhood conditions. Homework is easy and pleasant for some students, but burdensome for others. On certain students homework makes excessive demands; they feel oppressed and depressed by it. Yet evidence that homework causes excessive fatigue or is detrimental to health is difficult to obtain.

   Some teachers believe that very few students are so conscientious as to endanger their health by excessive study. Yet excessive tension and a sense of pressure often are associated with homework assignments that are not appropriate to the individual. Late hours spent in study and the inability to complete assignments may make a conscientious student depressed and anxious.

Such anxiety is self-defeating. It has been found that extremely anxious students tend to spend a large proportion of their study time thinking about themselves and other things. On the other hand, some students feel more secure when they have had homework to prepare them for the class discussion.

In order to maintain mental health, children and young people need to engage in worthwhile out-of-school tasks suited to their individual capacities. Homework should supply such tasks and reasonable freedom in carrying them out. When homework crowds out social experience, outdoor recreation, and creative activities, and when it usurps time that should be devoted to sleep, it is not meeting the basic needs of children and adolescents.

4. *Management of the homework program.* Some of the detrimental effects of homework are caused by faults in the management of the homework program. Teachers may fail to collaborate in giving assignments, underestimate the amount of time required by a particular assignment, demand excessive amounts of time, set unsuitable tasks, or pile on homework in a mistaken attempt to help students succeed in a school program too difficult for them. At times homework also has been assigned as punishment for individual and group misbehavior.

5. *Lack of guidance.* The individual differences of students are too seldom recognized. Intelligent students enjoy doing challenging intellectual tasks which give exercise to their native ability. Others, largely because of parental ambition, have too high a level of aspiration; they are carrying programs unsuitable for them. For these students, homework may be an excessive addition to the school day; it may decrease the interest and vigor with which they engage in school activities. The resulting fatigue, frustration, and dissatisfaction with school should be attributed partly to poor guidance.

Homework and School Success

Although many opinions exist on the effect of homework upon scholastic success, there has been little research on the subject. Brown and Holtzman (5) found a rather low correlation between study-habits

scores and school marks. Hudson (17) reported that scholastic achievement in arithmetic, but not arithmetic concepts, was influenced by the amount of homework assigned. The many intangible factors involved have prevented exact and consistent measurement of changes and relationships.

1. *Conclusions of experiments.* Recognizing the limitations of even the most carefully controlled experiments, only tentative conclusions can be drawn from them about the effect of homework. From his review of the 17 reports of experimental research prior to 1959, Goldstein (12) concluded that "regularly assigned homework favors higher academic achievement . . . more important at some grade levels than at others, in some subjects than in others, or for some pupils than for others" (p. 221). More details on two studies will illustrate the nature of these experiments.

   The following conclusions apply to eighth-grade students in one experiment:

   1. Home study appropriate to the students and carefully assigned was an aid in improving scholarship.
   2. Students who were not assigned homework were sporadic in their achievement.
   3. With students of average ability, home study seemed to be equally valuable for English, social studies, and mathematics.
   4. The more able students in the "homework group," as a whole, tended to make proportionately higher achievement scores than those in the group that was given no homework.
   5. Average and below-average students seemed to be handicapped by not having specifically assigned homework. (1)

   Another experiment with older pupils yielded similar results (26). The students in this class in American History were divided into two groups, one assigned homework and one given no homework assignments. The day before, the homework group was given an assignment to read at home. The nonhomework group was asked to read in class the pages dealing with the topic while the other half discussed it. All joined in the final discussion and took a short quiz the following day. After two weeks the procedure with the two groups was reversed.

At the beginning, the responses of the group that did homework "were more frequent and sustained" than those of the other group. As time went on, those who did no homework eagerly joined in the discussions. Some finished their reading quickly so that they could take part in the discussion with the other group. The homework group consistently made higher scores on the short daily quizzes than the nonhomework group. The homework group showed a similar superiority on the period-long essay test. A further analysis of scores showed that the more able students did well with or without homework, but scored higher on the essay test when they did homework. The students of average ability in the homework group likewise achieved higher scores. Slower learners also did better with homework and were lost without it.

The general conclusion from such a study seems to be not to abandon homework, but to evaluate and improve present practice.

2. *Reports of experience.* Some evidence of the effect of homework on scholarship has been reported by schools that have reduced or abolished homework and then observed the results. The undetermined effect of previous homework and failure to follow up results in upper grades make interpretation of these reports difficult.

   In some secondary schools where homework had been abolished or limited, the sum total of achievement did not seem to have been affected. When the students did not have homework to do, they could engage in evening classes in arts and crafts, natural science, dramatics, dancing, shorthand, and other activities of interest and value to them.

   Excessive homework, some teachers have observed, may cause fatigue which prevents the student from doing her/his best work in school the next day. Recognizing this possibility, one principal asked the parents' cooperation in experimenting with a reduction of homework. Instead of assignments in three subjects, students were given homework in only two, and the time to be spent in home study was limited to one hour daily with weekends free. The principal asked the parents to observe (a) any evidence

of less strain and tension, (b) the relative eagerness with which their children went to work on their homework, (c) their use of free time in worthwhile activities, and (d) any improvement in sleep and general health. In their reports later in the year, more than three-fourths of the parents reported favorable results from this reduction of the homework load. Almost 90 percent said they would not want to return to greater homework loads.

Any decision regarding homework should take into account many factors—home conditions, the amount and kind of homework given, its relation to the time for study at school, and the extent to which the curriculum stimulates students to study at home. A re-evaluation of the curriculum and teaching procedures might lead to improved supervised reading and study in school and to home study that would be a worthwhile learning experience for the student.

Fostering Home Study

If students are to study at home, conditions should be made as favorable as possible. Of physical conditions, quiet and good lighting are probably the most important. When a separate room is not available, a study corner with an uncluttered desk and lighting that meets the requirements of the Illuminating Engineering Society should be provided. Specific instruction and preliminary practice in school on a given assignment pave the way to successful home study.

Over 75 percent of 748 sixth-, seventh-, and eighth-grade students mentioned the following factors as favorable to home study: (a) having a clear understanding of the assignment, (b) having the necessary materials on hand, and (c) quiet and freedom from interruptions. These conditions prevailed less frequently among the students from low-income families. (18)

Cooperation between parents and teachers is essential to effective home study. Parents' groups often discuss homework. One such group systematically discussed three topics in their meetings at the school: "The Worth of Homework," "The Homework Load," and "Homework and the Home." They then held a joint conference with the classroom teachers in the school. The parents' role, they said, was to provide conditions conducive to study and to help the student work out a good study schedule, but not to teach or do the homework.

Study schedules based on diary records of the way students actually spend their time are helpful to many students. By planning a reasonable daily program of preparation for each class, the student sees how to budget her/his time to the best advantage. The schedule serves as a flexible, realistic guide.

Effective reading methods are basic to successful study. Instruction in effective methods of reading and study is a prerequisite to success in home study. (14) The mature reader has been described as a person with wide interests and specific purposes that guide her/his reading. Mature readers command reading skills which they can apply as appropriate. They vary their reading rate with the content and purpose of their reading. They read with active minds first comprehending what the author says and then relating the ideas to their previous knowledge and experiences. They make inferences and generalizations and apply the knowledge gained through reading to the solution of real problems. Homework, at its best, requires this type of mature reading ability.

To develop mature reading ability, the teacher must plan with the student appropriate ways to study the assignment for the day and must take time to teach certain reading and study skills needed by all students, by a few, or by individuals. The skills may be taught to small groups or to individuals while the rest of the class is beginning to work on the assignment. Preliminary study uncovers questions and problems which can be discussed before the end of the class.

Homework Policies

For more than 50 years schools have been modifying their homework requirements, usually in the direction of less homework and more practical, interesting, and creative assignments. Some have abolished homework. As a result of partially controlled experiments and informal appraisals of the effects of changes in homework practice, certain policy recommendations have been made.

1. *Development of study skills in the elementary school.* Before homework assignments can be increased in junior and senior high schools, study and reading skills must have been mastered during elementary school years. If the amount of daily homework is smoothly graduated from a few minutes in the early grades to two hours in senior high school, students will become accustomed to the regularity and continuity of home study.

2. *Provision of time for other activities.* If the weekends and one evening in the middle of the week are left free, the student has an opportunity to develop appreciation and skills in art and music, and to participate more fully in the social life of the family and the community. This trend toward homework that is optional, creative, and recreational was for several years deflected by the emphasis on higher academic standards for college-preparatory students and by the competition caused by college entrance requirements. For this reason, an increase in the homework required was evident in many schools in the 1960's. Requirements have to some extent been refocused in the 1970's.

3. *More time for guided study in school.* Homework has to some degree been eliminated in the type of program in which recreation and study have been incorporated into a lengthened school day. Various forms of supervised study likewise provided time for study in school, for classroom learning as well as for measuring what pupils have learned.

   A longer school day providing time for supervised individual study would be especially helpful to slow learners and readers who need specific help in learning how to get their studying done. It is also helpful to students who travel some distance to and from school or who live under home conditions in which it is difficult to study. For these students an after-school period of independent study, following a recreational break, enables them to do the necessary studying under favorable conditions. Any plan for incorporating all or most of the necessary independent study within the school day may have several good results: more voluntary reading, more opportunity for taking responsibility for one's use of time and for engaging in worthwhile activities scheduled during the evenings, and less worry and dissatisfaction with school.

   For students who have no incentive to study or who lack a quiet, suitable place for study at home, "homework classes" have been suggested. These meet in the evening for one or two hours under the supervision of teachers. Part of the time is devoted to supervised study, the rest to games and other recreation. These classes meet the social as well as the academic needs of certain students.

"Preparation periods" are another way of reducing the amount of homework by having some or all of it done in school. In some schools the last period of the day, or even most of the afternoon is scheduled for independent study under supervision. Students are encouraged to use the library and to have individual conferences with their teachers.

"Study day" is another plan for developing independent study habits. In one high school reported under this plan a number of years ago, the students were on their own one day a week. (14) There were no scheduled classes. Some teachers were on hand to give individual assistance, while others were taking field trips with student groups. The student might select from a variety of social as well as academic experiences. She/he first made out a proposed schedule for the day in the homeroom period. Students who had not passed the previous quarter had to have the teacher's approval of their schedule. A student who had failed a subject was required to spend two periods with the teacher of that subject. The teachers with whom a student spent some time signed her/his card, which was returned to the homeroom teacher at the end of the day. A general movement in the direction of more pupil-teacher planning resulted from the "study day" program, and many modifications of this plan are in existence now.

4. *Continuing projects*. Continuing projects give students more practice in budgeting time, relating the facts they learn, using the knowledge they gain for some practical purposes, becoming more proficient in methods of problem-solving.

   Although the "weekly assignment" plan may not reduce the total amount of homework, it does give the students more opportunity to plan their work. By completing their homework assignments on certain days, they may have one or more nights and weekends free. This plan puts more responsibility on the students for using time wisely and focuses their attention on the task to be accomplished instead of on the time to be spent on homework.

5. *Less written homework*. Written assignments are the type most frequently given. A controlled group experiment with fourth-

graders, however, showed no advantage in the use of homework sheets (32).

There are several reasons why the disproportionate amount of written homework should be reduced. It becomes a heavy burden to the students, especially the gifted ones, unless, of course, it is creative writing. It crowds out the kind of home reading and study most often needed and carried on in later life. The burden of correcting written exercises often makes the teacher less enthusiastic and creative in class.

6. *More student initiative and freedom.* Students should participate in making their own homework assignments. They need to relate and otherwise reinforce the facts they have learned, solve the problems that seem to them significant, and acquire the tools of learning for which they feel a need. In an experiment in an average class in intermediate algebra, the teacher opened the semester with a mimeographed outline of the plan, including assignments to be passed in at intervals and in blocks chosen by the students. At the beginning of each class period students could ask for clarification or help on any assignment. No two homework papers handed in were alike; the teacher commented on each paper. Evidences of success reported by the teacher were (a) the students' growth in knowledge and in self-reliance and independence, (b) the fact that most assignments were handed in before the final date set, and (c) the higher grades obtained on the same tests as compared with those of the classes using conventional homework routines.

7. *More meaningful and useful study.* Ideally, a student studies at home so that she/he may *produce, not reproduce.* If a definite end is in view—an immediate use for the facts being learned—the student reads more efficiently and remembers more easily. The whole process is psychologically effective and personally satisfying.

   Assignments should grow out of activities in which the students are interested and for which they are reading. A particular assignment should be continuous with previous classwork and should be geared to future development of the subject. To give such assignments requires knowledge of the students and of the

subject. It also takes thought, imagination, and student-teacher planning. Such assignments cannot be made hurriedly at the end of the period, as is so often the practice.

The assignment should help a student learn how to learn. This objective will not be attained if the student has not had basic instruction in how to study a given subject. The student should understand how to approach the problem so that she/he will not feel "all at sea" or frustrated.

8. *Individualized homework.* When homework is individualized, it becomes a way of meeting special needs (12, 17). It should vary with the capacities and interests of individual students. This objective may be achieved, as already stated, by more student initiative and freedom and by differentiation of assignments. Although individualization of instruction has been advocated for a long time, it is probably still true that most assignments in American high schools are not differentiated to any great degree. One reason for this lag is that differentiated assignments take more planning time and require more understanding of the abilities, interests, and needs of individual students than many teachers have time to acquire.

CONCLUSIONS

Should homework be abolished? Opinions differ (2). There is no conclusive evidence to justify the persisting faith of many persons in the efficacy of *routine* homework. But a systematic homework procedure (20) that grows out of stimulating school experiences and student initiative should be a valuable learning experience and a worthwhile use of after-school time (13).

The results of opinion polls, descriptions of programs and procedures, and experimental studies relative to study and homework may be considered as exploratory of these fields rather than conclusive.

For many years, the surveys have reported current practice rather than best practice and most promising procedures. They do show, however, discrepancies between recommended procedures and those that have been employed. For example, meaningful homework, indi-

vidually assigned, is recommended; but many teachers apparently still give the same assignment to the entire class. Creative assignments seem to be given too seldom. Although it is recommended that teachers take time to clarify the assignment and get students started on their homework during the class period, this is not done enough. More concerted action on the problem in a given school or school system is recommended but seldom carried out. Generally neglected is continuous, sound instruction in study methods, beginning in the first grade.

Much of the research in this area can be criticized from the standpoint of design, unclear description of procedures, inadequate measuring instruments, and failure to explain different results for subgroups within a sampling. Too often researchers have published conclusions and generalizations not warranted by the findings. These conclusions have been further distorted by persons who read the research reports superficially.

Contrary to general opinion, the findings of the best research indicate that systematically assigned homework contributes to academic achievement to a variable degree for able learners; to some extent for the average; and to a more marked degree for slow learners.

On the other hand, opinions of teachers, parents, and students, which presumably are based on experience, are not without value. Their consensus and research findings lead to the following conclusions:

1. Some homework is necessary. It should grow out of and should support and enrich classwork.
2. Students should see the purpose of homework assignments.
3 Teachers should spend class time helping students to get started on their homework.
4. One teacher's assignments should not take a disproportionate amount of time and effort.
5 Individual differences should be recognized and the amount and kind of homework matched with the developmental status of the student.
6. Students' initiative and responsibility should be encouraged; many assignments should be on a voluntary basis.

The result of any administrative or teaching procedure depends upon the psychological soundness of the method, the appropriateness to the individual, and the skill and personality of the teacher. Whatever

methods or administrative devices are used, the crux of the matter is the quality of study habits developed. This should be a central focus of research in this area of homework and study habits.

We need well-planned and carefully controlled experiments in which more kinds of learning in different subjects are studied, groups are chosen with respect to more of the factors that influence learning, the setting and the nature of the homework and of the supervised study are described in detail, and the results are more precisely measured and interpreted. There is also need for more systematic and accurate observation, analysis, and "action research" by teachers on how individual pupils learn under different conditions of home and school study. Accurate descriptions, if evaluated, are more meaningful and useful than superficial surveys or inconclusive experiments.

In teaching any class or group we need to ask: What purpose does homework serve? What effect does a certain kind of homework have on students of different interests and abilities? How else might they spend their time? Could the desired results be achieved by more or different types of guided study during the school day? What study methods do successful students of different abilities and backgrounds actually use? This information may be obtained by the skillful use of introspection and retrospection—asking students to describe what goes on in their minds while they are studying or immediately after a period of study (28). It can be obtained by observation and discussion.

We need also to ask what coordination of home study there is, if any, between the primary, intermediate, and secondary levels in a given school system. Administrators and teachers should agree upon the basic goals and types of homework for their school system, so they can present a unified, consistent approach to the student as she/he progresses through the system.

In posing the questions and seeking accurate answers, it must be kept in mind that learning how to learn efficiently is the central purpose of any study assignment. If that purpose is fulfilled the detailed objectives of the assignment will be met naturally. And the integration of study into students' total experience cannot help but enhance their relationship with school and the wider community.

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BIBLIOGRAPHY ON HOMEWORK

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